Amendments to the Specification:

Please replace the title with the following amended title:

~~Method for production of semiconductor components~~
Method of Semiconductor Processing Including Fluoride

Please replace the paragraph beginning at page 1, line 23 with the following amended paragraph:

In selective epitaxy, HF soluble layers are used for masking. Select layers are grown in the epitaxy reactor and thereafter, masked areas are chemically (wet or dry) removed outside of the reactor. For further ~~integration's~~ integrations, additional lithographic steps would be necessary.

Please replace the paragraph beginning at page 2, line 30 with the following amended paragraph:

The present invention further comprises ~~A~~ a method for producing semiconductor components comprising the steps of: applying at least one first semiconductor component on an epitaxial substrate; applying n number of masking layers on said epitaxial substrate and the first semiconductor component, wherein each of said masking layers defines a window for application of other semiconductor components and wherein n is a natural number; etching at least one of said n number of masking layers; and applying at least one other semiconductor component in at least one of said windows defined by said etched masking layer.

Please replace the paragraph beginning at page 3, line 4 with the following amended paragraph:

The corroding of the HF soluble layers takes place in the epitaxy reactor by induction of hydrogen fluoride (HF) or an unstable fluoride combination. The unstable fluoride combination is marked thereby, that it disintegrates by light stimulation or by warming to at least one hundred degrees Celsius as well as it releases hydrogen fluoride. With some fluoride combinations, other or additional gases, so called carrier gases, may be ~~induced~~ introduced. Usually H_2, N[[~~2~~$_2$]] or Argon is used. The ~~induction~~ introduction of theses carrier gases is necessary for unstable

fluoride combinations, but not for hydrogen fluoride. Because many epitaxy reactors consist of quartz glass, which reacts with the corrosive ~~oxide~~ fluoride, the reactor walls must be protected from such corrosive gas. This is done preferably by cooling the reactor walls so as to reduce the reactivity of these ~~thermic~~ thermally unstable gases.

Please replace the paragraph beginning at page 3, line 15 with the following amended paragraph:

Different components can be produced through the use of different HF soluble masking materials, each with different layer ~~thickness~~ thicknesses. Herein, the different HF soluble masking materials are lifted away in different etching steps without interrupting the process as a whole. As such, during different layering steps, different epitaxy materials can be applied epitaxially. With the use of suitable masking defining components, later lithographic processes can be advantageously reduced. In addition, costs savings may be incurred by avoiding the steps of removing and inserting the substrate into the epitaxy reactor.

Please replace the paragraph beginning at page 4, line 10 with the following amended paragraph:

Reference is now made to the figures of the drawings in which elements that are identical or function identically are identified by the same reference numerals throughout. Prior to the start of any of the methods to be described below, it is within the scope of each to clean the epitaxial substrate, prior to any applications, with the introduction of at least one fluoride based hydrogen fluoride soluble layer. The cleaning may occur within or outside the epitaxy reactor. In FIGS. 1a-1c, an epitaxy substrate 9 is depicted with a masking layer 3 comprising one of a HF soluble material. Such material may be SiO_2 or Si_8N_8. The masking layer 3 defines windows 4. The substrate, if not already present, is placed in an epitaxy reactor. Herein and as depicted in FIG. 1b, a layering sequence 10 is commenced in the windows 4. The sequence may be a semiconductor laser effected by MOVPE (metal organic vapor phase epitaxy). The application step is further indicated by arrows 11. Next and as depicted in FIG. 1c, the masking layer 3 is removed by etching 12 of a fluoride combination (for example HF), which may be ~~induced~~ introduced in the epitaxy reactor after the epitaxy. The process temperature lies preferably between 50 and 500° C. The substrate 9 or wafer is now ready for additional processing.

Please replace the paragraph beginning at page 4, line 26 with the following amended paragraph:

FIGS. 2a-2d depict procedural steps according to the present invention undertaken to produce a laser structure having an active area 1, a first vertical wave guide 2, and a second horizontal wave guide 8. As a first step and as depicted in FIG. 2a, a HF soluble masking layer 3 (e.g. be SiO_2, Si_8N_8) is directly applied onto an epitaxy substrate 9. The masking layer 3 defines windows 4. Next and as depicted in FIG. 2b, in an epitaxy reactor a first wave-guide layer 5 is applied in windows 4. An active area layer 6 is applied thereon. Then a second wave guide layer 7 is applied thereon. The first and second wave-guide layers 5 and 7 form at least one part of the vertical wave-guide 2. Next and as depicted in FIG. 2c, the masking material 3 is removed through exposure to a corrosive gas. The corrosive gas may comprise NF_3 and may be inserted into the epitaxy reactor after the epitaxy together with a carrier gas (e.g. H_2, N_2 Ar, etc.). The temperature within the reactor lies in the range of 50 and 500° C. Next and as depicted in FIG. 2d, wave-guide material is applied without prior removal of the substrate from the reactor. Accordingly, the vertical wave-guide 2 and lateral wave-guide 8 are produced.

Please replace the paragraph beginning at page 5, line 7 with the following amended paragraph:

The application of the present method to integrated semiconductor components is depicted in FIGS. 3a-3c. The components may be electrical and optoelectrical. As depicted in FIG. 3a, electrical components 13 may comprise transistors, diodes, amplifiers, and the like. Optoelectronic components 14 (FIG. 2b) may comprise laser diodes, optical amplifiers, light emitting diodes and the like. Returning to FIG. 2a, electrical components 13 are applied on substrate 9 below HF soluble masking layer 3. The masking layer 3 defines windows 4 along the substrate 9. As depicted in FIG. 3b, the optoelectronic components are grown in windows 4, per arrows 11. Thereafter and as depicted in FIG. 3c, the masking layer is removed 12 by ~~induction~~ introduction of a fluoride combination into the epitaxy reactor. Now, the wafer can be further processed with, for example additional, electrical contacts and the like.

Please replace the abstract amended abstract:

~~The present invention relates to a~~ A method for the production of semiconductor components~~. This method comprises the steps~~ which includes applying masking layers and components on epitaxial semiconductor substrates within the epitaxy reactor without removal of the substrate from the reactor. At least one of the ~~The~~ masking layers ~~may be~~ is HF soluble such that a gas etchant may be introduced within the reactor so as to etch a select number and portion of masking layers. This method may be used for production of lateral integrated components on a substrate wherein the components may be of the same or different type. Such types include electronic and optoelectronic components. Numerous masking layers may be applied, each defining particular windows intended to receive each of the various components. In the reactor, the masks may be selectively removed, then the components grown in the newly exposed windows.